

Translation**Closing Lid**

The invention relates to a closing lid, comprising two plastic components for tight closing of an opening in a support plate, in particular a motor vehicle body, with a dish-like shaped cover element and an insert.

This type of closing lid, comprising two plastic components is already known from the state of the art (DE 195 46 160 A1). The lid element in this arrangement consists of a core component made of hard material, whereas a sealing element, connected with the lid element is made of an outer component produced of a softer material. Said sealing element can be glued together with a support plate, at least at the outer edge.

Further state of the art concerns a closing lid for tight sealing of an opening in a support plate (DE 43 27 545 A1). Here, the core component consists of a hard material, with a shell component being provided of softer material, which encloses the core component. Said shell component is cementable at its outer edges with the support plate.

In contrast thereto, it is the object of the present invention to create a closing lid of the initially mentioned type, which guarantees, with simple installation, without use of any gluing procedure, tight sealing of an opening in a support plate.

Said object is solved according to the invention in that an insert element consisting of a hard component, presents a center-region, which, in mounted state of the closing lid, acts upon an elastic counter region of the lid element and that the lid element and the insert can be locked together in mounted state.

The result is a simply designed closing lid, with the insert comprising a hard plastic component which can be locked together with the lid element. Due to said locking, the lid element consisting of a softer material, is jammed in such manner in an opening of the to be closed opening of a support, that tight closure is guaranteed.

In further embodiment of the invention, the elastic counter-region of the lid element can present a plate, positioned opposite the center region of the insert, which is connected with a collar of the lid element by means of a thinner conical segment. In addition, according to another characteristic of

the invention, the center region of the insert can be designed as a hollow cylinder, with said hollow cylinder being connected to a covering plate of the insert.

Beneficial use is made, relative to the lid element and the insert of a locking connection with a counter-locking device, whereby it is possible, to first join the two parts provisionally and to only effect the mounted state after insertion into a to be closed support plate, in which the insert consisting of a hard component is pressed in such manner into the elastic material and locked together with same, that tight closing of the support opening is guaranteed.

Beneficial further developments are apparent from the dependent claims.

In the following, the invention is described in more detail by means of exemplary embodiments represented in the drawing.

The drawing depicts as follows:

Fig. 1 a schematic center section through a lid element and an insert element,
before the preliminary installation,

Fig. 2 a bird's eye view on the lid element according to Fig. 1,

Fig. 3 a magnified representation in the region X according to Fig. 1,

Fig. 4 a perspective view of the lid element according to Fig. 1,

Fig. 5 a specific embodiment similar to Fig. 1 in pre-mounted position,

Fig. 6 the specific embodiment according to Fig. 5 in mounted position,

Fig. 7 another embodiment possibility of the invention in schematic
center section,

Fig. 8 a further specific embodiment of the invention in schematic
center section.

Fig. 1 depicts the invention-specific closing lid which consists of two plastic components. Said closing lid serves, for example, for tight closure of an opening 38 in a support plate 35, especially a motor vehicle body

represented in Fig. 5 and 6.

The closing lid consists of a dish-like designed lid element 1 and an insert

element 2. The insert element 2 is made of a hard component and

presents a center region 10, which, in mounted state of the closing lid,

acts upon a plate 15 in the shape of an elastic counter-region 20 of

the lid element 10.

The elastic counter-region 20 of the lid element 1 is connected with a collar

21 of the lid element 1 by means of a thinner conical section 18.

In addition, one can recognize from Fig. 1 that relative to the insert element

2, the center region 10 is designed as hollow cylinder 12. Said hollow

cylinder 12 is connected with a cover plate 14 of the insert element 2.

Between the cover plate 14 of the insert element 2 and the hollow

cylinder 12 there are provided a number of recesses 16, which are distributed

over the circumference.

Collar 21 of the lid element 1 passes, by means of an intermediate ring 22, into a cover region 25, which, in mounted state of the closing lid, acts upon the support plate 35 in the region of opening 38.

In addition, it can specifically be recognized from Fig. 1 and 3, that the intermediate ring 22 presents a locking region 30, which comprises, for example, a number of stop teeth 30', distributed over the circumference. The collar 21 of the lid element 1 presents, moreover, on the inside, a number of cross-pieces 65, distributed over the circumference.

The insert element 2 presents a collar 40, which is equipped with two successively positioned counter-stop devices 31 and 32.

For the pre-installation according to Fig. 5, the insert element 2 is pressed into the lid element 1 in the direction of arrow I, until the locking device 30 of the lid element 1 embeds itself into the counter-locking device 31 of the insert element 2 (according to Fig. 5 and 6, the locking

device 30 consists of a circumferential ring). In this state it is possible to install the closing lid consisting of the two units 1 and 2 in the opening 38 of a support plate 35. After said insertion, the insert element 2 according to Fig. 6 is, in turn, pressed in the direction of arrow I, into the lid element 1, until the locking device 32 embeds itself into the locking device 30 of the lid element 1. In this movement, the hollow cylinder 12 presses upon plate 15 and moves same in arrow direction II, due to the elastic cone-shaped intermediate region 18. Consequently, collar 21 of the elastic lid element 1 becomes deformed, as a result of which the adjacent region of opening 38 of the support plate is acted upon, thus assuring tight closure of said opening 38.

The cover plate 14 of the insert element 2 protrudes beyond collar 40, with said cover plate 14, in mounted state according to Fig. 6, embedding itself in an appropriate recess 50 of the lid element 1.

In the specific embodiment according to Fig. 7, there exists the

possibility, that the hollow cylinder 12 presents a locking device 31', which can be embedded in two successively positioned counter-locking devices 53 and 55 of a peg 60. Said peg 60 is located at the plate 15 of the lid element 1. Once again, two positions can be assumed, namely the pre-mounting and the final mounting position, similar to the representation according to Fig. 5 and 6.

Fig. 8 shows another embodiment possibility of the invention. Here also, the insert element 2, comprising a hard component, presents a center region 10', which, in mounted state of the closing lid, acts upon an elastic counter-region 20, namely plate 15 of the lid element 1.

In said specific embodiment, the locking of the insert element 2 in lid element 1 is achieved in that insert element 2 has a circumferential thin location 66, as a result of which the center region 10", while being pressed in the direction of the arrow I, snaps inward and thus acts upon the elastic counter-region 20 of the lid element 1. The stop region 31' thus is positioned, both in pre-mounted as well as in mounted state,

in the counter-locking device 30" of the lid element 1.

Because of the constructively simple design of the closing lid, comprising

lid element 1 and insert element 2, tight closure is produced, in

various embodiments, in simple fashion, in an opening 38 of a support

plate 35, with the entire unit, initially, being insertable during pre-mounting, into

the opening 38 and then with final mounting, closing of said opening achieved

in perfect and functionally secure manner.